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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/813,446	03/20/2001	Olav Solgaard	UC97-156-7	3284

7590

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EXAMINER

LEE, JOHN D

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 05/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/813,446

Applicant(s)

SOLGAARD ET AL.

Examiner

John D. Lee

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 59-144 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 59-94 is/are allowed.
- 6) ☒ Claim(s) 95-144 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 17, 19, 20, 22 6) ☐ Other: \_\_\_\_\_

Art Unit: 2874

This Office action is responsive to applicant's communication filed on September 5, 2002. In this communication, claims 31-58 were canceled by amendment and claims 95-144 were newly added. Claims 59-144 are presently pending.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 102-119 and 127-144 are rejected under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Patent 5,581,643 to Wu. Wu discloses an optical switch comprising a two-dimensional array of actuated mirrors which can be configured for switching an optical beam from any input port to any output port. Since each mirror in the Wu array is individually addressable, the switch can be configured to have a specific mirror to receive an optical beam from a corresponding one specific input port, or to have a specific output port receive an optical beam from a corresponding one specific mirror in the array.

Claims 95-101 and 120-126 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,581,643 to Wu in view of U.S. Patent 5,255,332 to Welch et al. Wu does not disclose any means for positioning an optical beam onto the

Art Unit: 2874

array of actuated mirrors (e.g. imaging means or lenses), but it is clear that something must guide the optical beam(s) into the correct position(s) so that efficient switching can occur. Welch et al teaches that the use of lenses as means for positioning optical beams onto reflective/diffractive switching elements of an optical array type switch was well known in the art at the time of applicant's invention. Because of the necessity of use of such positioning means, as just discussed, the person of ordinary skill would have found it obvious to use lens imaging means (as taught by Welch et al) in the array switch of Wu.

Claims 95-144 are further rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Japanese Published Patent Disclosure No. 5-107485 to Kunio et al. Note that the publication date of this Disclosure is April 30, 1993. Kunio et al discloses an optical switch comprising a pair of facing two-dimensional arrays of actuated mirrors which can be configured for switching an optical beam from any input port on either array to any output port on either array. Since each mirror in the Kunio et al arrays is individually addressable, the switch can be configured to have a specific mirror to receive an optical beam from a corresponding one specific input port, or to have a specific output port receive an optical beam from a corresponding one specific mirror in the array. Kunio et al further discloses lenses for positioning optical beams onto the arrays of actuated mirrors.

Claims 59-94 are allowed. The reasons for allowability have been developed previously during the prosecution of this application.

Art Unit: 2874

Applicant's arguments with respect to the claims rejected above have been considered but are moot in view of the new ground(s) of rejection. Applicant's newly presented claims 95-144 are alleged to correspond to previously presented (now canceled) claims 39-43 and 53-57. Applicant presented these new claims in response to the Examiner's statement that these claims "would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims" (see page 3 of paper number 16, mailed June 5, 2002). The newly presented claims, however, do not include ***all the limitations*** of the base claim and any intervening claims, since the limitations regarding "wavelength component separation" have been omitted. Moreover, it was this important distinction that resulted in claims 39-43 and 53-57 previously being found patentable! The above rejections are thus entirely appropriate with respect to the newly presented claims.

All of the prior art documents submitted by applicant in the Information Disclosure Statements filed on May 22, 2002, August 28, 2002, September 5, 2002, and February 19, 2003, have been considered and made of record (note the attached copy of forms PTO-1449).


Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR § 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within

Art Unit: 2874

TWO MONTHS of the mailing date of this final action and an advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR § 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (703) 308-4886. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (703) 308-0956, to the technical support staff supervisor (Team 2) at telephone number (703) 308-3072, or to the Technology Center 2800 Customer Service Office at telephone number (703) 306-3329.

  
**John D. Lee**  
**Primary Patent Examiner**  
**Group Art Unit 2874**